

## WHAT IS CLAIMED IS:

1. A composition of matter selected from the group consisting of:

- a) a substantially pure or recombinant FDF03 protein or peptide exhibiting at least about 85% sequence identity over a length of at least about 12 amino acids to a mature polypeptide from SEQ ID NO: 2 or 4;
- b) a natural sequence FDF03 of SEQ ID NO: 2 or 4;
- c) a fusion protein comprising FDF03 sequence;
- d) a substantially pure or recombinant YE01 protein or peptide exhibiting at least about 85% sequence identity over a length of at least about 12 amino acids to a mature polypeptide from SEQ ID NO: 6, 8, or 10;
- e) a natural sequence YE01 of SEQ ID NO: 6, 8, or 10;
- f) a fusion protein comprising YE01 sequence;
- g) a substantially pure or recombinant KTE03 protein or peptide exhibiting at least about 85% sequence identity over a length of at least about 12 amino acids to SEQ ID NO: 12, 14, 16, 18, 20, or 22;
- h) a natural sequence KTE03 of SEQ ID NO: 12, 14, 16, 18, 20, or 22; and
- i) a fusion protein comprising KTE03 sequence.

2. A substantially pure or isolated protein comprising a segment exhibiting sequence identity to a corresponding portion of a FDF03, YE01, or KTE03 of Claim 1, wherein:

- a) said homology is at least about 90% identity and said portion is at least about 9 amino acids;
- b) said homology is at least about 80% identity and said portion is at least about 17 amino acids; or
- c) said homology is at least about 70% identity and said portion is at least about 25 amino acids.

3. The composition of matter of Claim 1, wherein said:

- a) FDF03 comprises a mature sequence of Table 1;
- b) YE01 comprises a mature sequence of Table 2;
- 5 c) KTE03 comprises a mature sequence of Table 3;
- d) protein or peptide:
  - i) is from a warm blooded animal selected from a mammal, including a primate or rodent;
  - 10 ii) comprises at least one polypeptide segment of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, or 22;
  - iii) exhibits a plurality of portions exhibiting said identity;
  - 15 iv) is a natural allelic variant of FDF03, YE01, or KTE03;
  - v) has a length at least about 30 amino acids;
  - vi) exhibits at least two non-overlapping epitopes which are specific for a mammalian FDF03, YE01, or KTE03;
  - 20 vii) exhibits a sequence identity at least about 90% over a length of at least about 20 amino acids to a rodent FDF03, YE01, or KTE03;
  - viii) exhibits at least two non-overlapping epitopes which are specific for a primate FDF03, YE01, or KTE03;
  - 25 ix) exhibits a sequence identity at least about 90% over a length of at least about 20 amino acids to a primate FDF03, YE01, or KTE03;
  - x) is glycosylated;
  - 30 xi) has a molecular weight of at least 7 kD with natural glycosylation;
  - xii) is a synthetic polypeptide;
  - xiii) is attached to a solid substrate;
  - xiv) is conjugated to another chemical moiety;
  - 35 xv) is a 5-fold or less substitution from natural sequence; or

xvi) is a deletion or insertion variant from a natural sequence.

4. A composition comprising:

- a) a sterile FDF03 protein or peptide of Claim 1;
- b) said FDF03 protein or peptide of Claim 1 and a carrier, wherein said carrier is:
  - i) an aqueous compound, including water, saline, and/or buffer; and/or
  - ii) formulated for oral, rectal, nasal, topical, or parenteral administration;
- c) a sterile YE01 protein or peptide of Claim 1;
- d) said YE01 protein or peptide of Claim 1 and a carrier, wherein said carrier is:
  - i) an aqueous compound, including water, saline, and/or buffer; and/or
  - ii) formulated for oral, rectal, nasal, topical, or parenteral administration;
- e) a sterile KTE03 protein or peptide of Claim 1; or
- f) said KTE03 protein or peptide of Claim 1 and a carrier, wherein said carrier is:
  - i) an aqueous compound, including water, saline, and/or buffer; and/or
  - ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

5.. The fusion protein of Claim 1, comprising:

- a) mature protein sequence of Table 1, 2, or 3;
- b) a detection or purification tag, including a FLAG, His6, or Ig sequence; or
- c) sequence of another cell surface protein.

6. A kit comprising a protein or polypeptide of Claim 1, and:

- a) a compartment comprising said protein or polypeptide; and/or

- b) instructions for use or disposal of reagents in said kit.

7. A binding compound comprising an antigen binding portion from an antibody, which specifically binds to a natural FDF03, YE01, or KTE03 protein of Claim 1, wherein:

- a) said protein is a rodent protein;
- b) said binding compound is an Fv, Fab, or Fab2 fragment;
- c) said binding compound is conjugated to another chemical moiety; or
- d) said antibody:
  - i) is raised against a peptide sequence of a mature polypeptide of Table 1, 2, or 3;
  - ii) is raised against a mature FDF03, YE01, or KTE03;
  - iii) is raised to a purified FDF03, YE01, or KTE03;
  - iv) is immunoselected;
  - v) is a polyclonal antibody;
  - vi) binds to a denatured FDF03, YE01, or KTE03;
  - vii) exhibits a  $K_d$  to antigen of at least 30  $\mu\text{M}$ ;
  - viii) is attached to a solid substrate, including a bead or plastic membrane;
  - ix) is in a sterile composition; or
  - x) is detectably labeled, including a radioactive or fluorescent label.

8. A kit comprising said binding compound of Claim 7, and:

- a) a compartment comprising said binding compound; and/or
- b) instructions for use or disposal of reagents in said kit.

9. The kit of Claim 8 capable of making a qualitative or quantitative analysis.

10. A composition comprising:

- a) a sterile binding compound of Claim 7; or
- b) said binding compound of Claim 7 and a carrier,  
5 wherein said carrier is:
  - i) an aqueous compound, including water, saline,  
and/or buffer; and/or
  - ii) formulated for oral, rectal, nasal, topical,  
or parenteral administration.

10 11. An isolated or recombinant nucleic acid encoding  
a protein or peptide or fusion protein of Claim 1, wherein:

- a) said protein is from a mammal, including a  
primate; or
- 15 b) said nucleic acid:
  - i) encodes an antigenic peptide sequence of  
Table 1, 2, or 3;
  - ii) encodes a plurality of antigenic peptide  
sequences of Table 1, 2, or 3;
  - 20 iii) exhibits at least about 80% identity to a  
natural cDNA encoding said segment;
  - iv) is an expression vector;
  - v) further comprises an origin of replication;
  - vi) is from a natural source;
  - 25 vii) comprises a detectable label;
  - viii) comprises synthetic nucleotide sequence;
  - ix) is less than 6 kb, preferably less than 3  
kb;
  - x) is from a mammal, including a primate;
  - 30 xi) comprises a natural full length coding  
sequence;
  - xii) is a hybridization probe for a gene  
encoding said protein; or
  - xiii) is a PCR primer, PCR product, or  
35 mutagenesis primer.

12. A cell or tissue comprising a recombinant nucleic acid of Claim 11.

13. The cell of Claim 12, wherein said cell is:

- a) a prokaryotic cell;
- b) a eukaryotic cell;
- c) a bacterial cell;
- d) a yeast cell;
- e) an insect cell;
- f) a mammalian cell;
- g) a mouse cell;
- h) a primate cell; or
- i) a human cell.

14. A kit comprising said nucleic acid of Claim 11, and:

- a) a compartment comprising said nucleic acid;
- b) a compartment further comprising a FDF03, YE01, or KTE03 protein or polypeptide; and/or
- b) instructions for use or disposal of reagents in said kit.

15. The kit of Claim 14 capable of making a qualitative or quantitative analysis.

16. A nucleic acid which:

- a) hybridizes under wash conditions of 30° C and less than 2M salt to the coding portion from SEQ ID NO: 1 or 3;
- b) hybridizes under wash conditions of 30° C and less than 2 M salt to the coding portion from SEQ ID NO: 5, 7, or 9;
- c) hybridizes under wash conditions of 30° C and less than 2M salt to the coding portion from SEQ ID NO: 11, 13, 15, 17, 19, or 21;

- d) exhibits at least about 85% identity over a stretch of at least about 30 nucleotides to a primate FDF03;
- e) exhibits at least about 85% identity over a stretch of at least about 30 nucleotides to a primate YE01; or
- f) exhibits at least about 85% identity over a stretch of at least about 30 nucleotides to a primate KTE03.

17. The nucleic acid of Claim 16, wherein:

- a) said wash conditions are at 45° C and/or 500 mM salt; or
- b) said identity is at least 90% and/or said stretch is at least 55 nucleotides.

18. The nucleic acid of Claim 17, wherein:

- a) said wash conditions are at 55° C and/or 150 mM salt; or
- b) said identity is at least 95% and/or said stretch is at least 75 nucleotides.

19. A method of modulating physiology or development of a cell or tissue culture cell comprising contacting said cell with an agonist or antagonist of a FDF03, YE01, or KTE03.

20. The method of Claim 19, wherein the cell is a leukocyte, and the antagonist is to YE01 and is a monoclonal antibody which binds to DLAIR-1.